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| APPLICATION NO.                           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/506,458                                | 09/01/2004  | Ho Sung Kim          | P/3653-10           | 9993             |
| 38107                                     | 7590        | 11/07/2006           | EXAMINER            |                  |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS |             |                      | ZEMEL, IRINA SOPHIA |                  |
| 595 MINER ROAD                            |             |                      | ART UNIT            |                  |
| CLEVELAND, OH 44143                       |             |                      | .PAPER NUMBER       |                  |

1711

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/506,458

Applicant(s)

KIM, HO SUNG

Examiner

Irina S. Zemel

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, and 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The clause "closed packed array" is not defined with reasonable specificity anywhere in the specification. In the absence of quantitative description of this array, (note that the term array does not appear in the specification), the clause is indefinite.

Claim 2 language does not correspond to the language of claim 1 since claim 1 recites "until they form a closed packed array", while claim 2 recites "until they become closely packed" for the same step.

### ***Claim Rejections - 35 USC § 102/103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-2, 6-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over AU Patent Application 200151857 to De Toffol (hereinafter AU De Toffol) or under 35 U.S.C. 102(a and e) as anticipated

by or, in the alternative, under 35 U.S.C. 103(a) as obvious over its US corresponding patent 6,476,087 to De Toffol (hereinafter US De Toffol).

The rejection stands as per reasons of record. Insofar as the limitation to addition of a predetermined amount of diluent, all of the illustrative examples disclose addition of acetone in predetermined amount. While the reference does not discuss the function of acetone as maximizing the net buoyant force acting on the micro-spheres, acetone added to a viscous binder necessarily inherently has this effect. (Note that the diluent disclosed in the illustrative examples of De Toffol is exactly the same as the preferred diluent disclosed in the instant specification.). addition of acetone, or the same very diluent as the preferred diluent of the instant specification inherently meets all of the limitations of claim 10 as the same components must necessarily bring about the same effect in the identical compositions.

Insofar as the added limitation "form a closed packed array", in the absence of any quantitative guidance to what this means, this limitation is met, by any densified top layer, which, as discussed in the previous office action, inherently forms in the embodiments of De Toffol, especially the ones with long standing times on air.

Insofar as the limitations to binder flowing from beneath the closed packed array (to the extent the claimed array is understood), no disclosure of "flow" is found in the specification. Therefore, this term is given a meaning synonymous to the disclosed draining of the liquid. (otherwise, the claimed limitation would represent new matter). The draining limitation and how it is met by the references is discussed in the previous office actions, incorporated herein by reference.

The limitation of claim 2, as the claim is presented now, the step of allowing the microspheres to be closely packed can be at any stage of the process (even as the majority of the liquid is drained), which inherently occurs in the process of De Toffol as discussed in the previous office actions. In any event, close packing inherently occurs in the examples requiring long curing times in air in plaster molds as, again, previously discussed (long period of times of slow liquid removal in conjunction with buoyant nature of the microspheres, especially in compositions containing substantial amount of acetone).

### ***Response to Arguments***

Applicant's arguments filed 8-18-2006 have been fully considered but they are not persuasive. The applicants argue that the reference does not disclose the addition of predetermined amount of diluent to the liquid binder phase. The examiner disagrees. As discussed above, the reference expressly discloses addition of diluents such as acetone to the liquid binder system (the same very diluent as the preferred diluent disclosed in the instant specification)

The applicants further argue that the step of allowing the microspheres to float to the top of mixtures is modified to indicate that the allowing occurs until the microspheres form a close packed array, again not suggested in the prior art. The examiner again disagrees with this argument. As discussed above, no definition of "a closed packed array" in any meaningful qualitative way is provided in the specification. As evident from the applicants own drawings (1b), the microspheres start to float to the top and form

Art Unit: 1711

densified layer shortly upon placing the mixture in the mold. Moreover, in the acetone diluted compositions that are left standing in air for prolonged periods of time, the claimed effect is a necessary inherent occurrence due to the nature of the liquid phase binder and buoyant particles.

The applicants further argue that there is no disclosure in the cited reference regarding the microspheres floating to the top due to their buoyant nature. While the reference does not disclose (or rely upon) an inherently occurring phenomena, does not mean that the phenomena necessarily occurs during the disclosed process. The applicants state that it is contemplatable that the microspheres in the process disclosed in De Toffol will not float out. The examiner does not believe so. In fact, and especially in the examples where the solutions are poured in a plaster mold and are left in air for several hours, it is not seen how the buoyant microspheres do not float out. The examiner shifted the burden to the applicants to provide factual evidence that the floating out effect does not necessarily and inherently occurs in the embodiments disclosed in the reference, instead, the applicants chosen to argue that it is not their burden to "of disproving the occurrence of an alleged possible event in a prior art reference if the prior art itself does not disclose that occurrence, nor deal with the possibility of or the result of that event." This statement by the applicants lacks both logic and any legal merit. Moreover, it clearly misinterprets the outstanding rejection. First of all, it is not "a possible event", rather it is a necessary event that inherently occurs in the process disclosed by the reference. See discussion on pages 3-4 of the first office action and further discussion of inherency on page 3 of the final office action.

Second, it has been long established by the court that once the examiner established rational for allegedly inherent characteristic necessarily flows from the teachings of the applied prior art "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under **35 U.S.C. 102**, on '*prima facie* obviousness' under **35 U.S.C. 103**, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). In the instant case, the examiner established that rationale of microspheres necessarily floating out due to their required buoyancy in the binder. The PTO did require the applicants to provide proof to the contrary, but the applicants chosen not to. Third of all, in establishing inherency, there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003). Thus, whether the reference addressed an occurrence or not is completely immaterial and irrelevant.

The applicants further state that "The rejection based on what De Toffol teaches is based on speculation, as illustrated by phrases in the rejection like "it is quite possible", "at least some of the microspheres must float to the top", and "it is reasonably believed that the microspheres become inherently close packed". These show that there

Art Unit: 1711

is no relevant teaching in De Toffol, just speculation about its teaching.” While each of the quoted phrases does appear in either the rejection or the response to the arguments, the quotes are taken out of the context and they do not mean what the applicants try to make them mean. The examiner does not appreciate cropping the quotes from the office actions and misinterpreting them so to support applicants erroneous conclusions. The first quote “it is quite possible” is NOT from a rejection, rather it is from the response to the arguments, and, specifically it refers to the dispersion of microspheres in the mixtures prior to being placed in the mold, i.e., “is quite possible that the microspheres, originally and prior to being poured into the mold, are uniformly dispersed in the liquid binder”. Which has NOTHING to do in establishing inherency of the microspheres floating out after the mixing is stopped and the mixture is placed in the mold (it is also was made in response to the applicants statement that the microspheres are evenly distributed in the mixtures disclosed by De Toffol). The quote “at least some of the microspheres must float to the top” is not a speculation, rather it is a supported allegation, and it is not seen how it is can be interpreted to support “the speculation theory” advanced by the pplicants. The phrase “at least some microspheres” simply refers to the fact that the claim limitations (of the claims as they were presented for examination) are met by only a few microspheres floating out, abnd did not require the entire amount of the microspheres to float to the top. And lastly, the quote “it is reasonably believed that the microspheres become inherently close packed” is just that – reasonable believe, supported by the underlying theory of buoyant particles floating out in time during the slow removal of the liquid phase. But that is just what is



Art Unit: 1711

required by the law to allege the inherency – reasonable believe and reasonable expectation, the law does not require absolute predictability.

The applicants further argue that the De Toffol does not drain liquid that is beneath the close packed array, because De Toffol has no suggestion or disclosure of a close packed array or of a flow from the close packed array. As per discussions above, "packed array" is, first of all, indefinite, and it further believed that in at least the embodiments that have long cut=ring processes, the microspheres inherently flow uou to the top to form a dense tp layer from under which the excess liquid is drained away. Insofar as the arguments regarding the flow of the liquid, one of the definitions of flow from Webster dictionary is "To move or run smoothly with unbroken continuity, as in the manner characteristic of a fluid", which is clearly met by removal excess liquid via wick material. It is further noted that NO definition or disclosure or even mentioning of the term flow is presented anywhere in the specification, and the only term that the removal of liquid is being referred to is "draining". If this term is supposed to mean anything different that generic "draining", no support for such interpretation is founq in the originally filed specification. The arguments appear to be a matter of semantics rather than a material differences between the claim limitations and the disclosure of the prior art.

The invention as claimed is still considered to have been fully within the purview of the de Toffol references and is unpatentable over the disclosure of the references.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

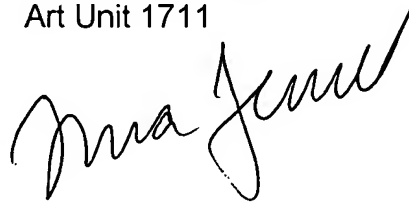
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1711

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irina S. Zemel  
Primary Examiner  
Art Unit 1711

A handwritten signature in black ink, appearing to read 'Irina Zemel', is written over the printed name and title.

ISZ